

AMENDMENTS TO THE SPECIFICATION

1. Please replace the paragraph beginning at page 6, line 11 and ending on page 7, line 3, with the following amended version:

“In some cases, an appropriate slope discontinuity may be provided in the surface 220 of the optical element 130 at or near the optical axis ~~[[130]]~~ 230, although this is not required in all embodiments. The slope discontinuity may help provide the axicon function to optical element 130. An illustrative surface 220 of an axicon optical element having a slope discontinuity at optical axis 230 is shown in Figure 4. Line 240 shows the slope of the upper part of surface 220 at optical axis 230 ($r = 0$). Line 250 shows the slope of the lower part of surface 220 at optical axis 230. As one follows surface 220 across axis 230, there is a disruptive change of slope from slope 240 to slope 250. Slope discontinuities may be implemented in various ways. Figure 5 shows a slope or curvature discontinuity 340 as a small notch-like shape, cusp, indentation or protrusion in surface 220 at area 260 about optical axis 230. Discontinuity 340 may be sharp, abrupt, rough or smooth. Discontinuity 340 may be of any shape or contour that helps enhance the axicon function. Elsewhere, the slope may be continuous, such as a function of this distance from optical axis 230 or of the radius, except at optical axis 230. In some cases, slope discontinuity 340 of surface ~~[[230]]~~ 220 may appear imperceptible to the eye. Apart from point or area 260, surface 220 may be aspherical or spherical, depending on the application.”

2. Please replace the paragraph at page 8, lines 4-12 with the following amended version:

“Figure 6 reveals three focus positions of an illustrative optical element 130. Detector position 270 shows an annular intensity profile of light 140 launched on detector surface 150. The intensity is shown by coordinate I and the distance from the optical axis ~~[[23]]~~ 230 is shown by coordinate R. Detector position 280 shows a profile having the intensity of light 140 concentrated on or near optical axis 230. Detector position 290 shows an annular intensity profile similar to the profile of detector position 270. Either detector position 270 or 290 may be used to achieve an annular or ring distribution of light intensity on the detector surface 150. It is contemplated that optical system 100 may incorporate either or both of the

axicon and defocusing components to attaining an annular light pattern on the detector surface 150.”